

Shahid Sadoughi University of Medical Sciences Social Behavior Research & Health



Hossein Afrasiabi ^{a*} ^(D), Kasra Barzideh ^a

^a Department of social sciences, Yazd University, Yazd, Iran.

ARTICLEINFO

of Public Health

ABSTRACT

ORIGINAL ARTICLE

Article History: Received: 14 Dec 2019 Revised: 15 Oct 2020 Accepted: 9 Nov 2020

*Corresponding Author: Hossein Afrasiabi

Email:

hafrasiabi@yazd.ac.ir

Tel: +98 9173050795

Citation:

Afrasiabi H, Barzideh K. Emotion Suspension: Emotional Experience of Cancer Patients. Social Behavior Research & Health (SBRH). 2020; 4(2): 574-582. **Background:** People and communities' reaction to cancer disease, much like any other diseases, can be due to their cultures, norms, and values. At the personal and family level, the unfamiliarity with the disease can cause many issues for a person. These conditions alter the patient's daily functions, roles, and emotions. Efforts to manage emotions and form behaviors become processes of bonding between the patient's body and social experiences. The aim of this research was to explore the emotions of cancer patients by discovering their understanding and interpretation.

Methods: This research employed a qualitative approach utilizing the grounded theory method. Semi-structured interviews were done with 17 cancer patients and their caregivers. Participants were selected through purposive sampling method (snowball), and the data provided from the interviews after implementation were analyzed using the theoretical coding method.

Results: The findings were classified into 5 main categories including: helplessness in notification, expectation of continuous empathy, admission delay, desire for emotional retrieval, and social distress. Ultimately, "suspense of emotions" was proposed to be regarded as the major phenomenon that was experienced by cancer patients.

Conclusion: Based on the findings of the research, patients' confusion in the face of cancer and their special conditions can create a condition of coping with the situation which prevents the achievement of stability at early stages, and before reaching relatively established conditions, the patients and those close to them are suspended for some time. This condition puts their emotions in a volatile situation, which brings the experience of suspending emotions.

Keywords: Cancer, Emotions, Emotion Suspension

Copyright: © 2020 The Author(s); Published by Social Behavior Research & Health. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<u>http://creativecommons.org/ licenses/by/4.0</u>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Introduction

The increasing growth of cancer and its physical, psychological and social impacts have caused concern to many people worldwide. Also, experts have introduced the disease as the main health issue of the century (Akbari et al., 2013). It is one of the most dangerous chronic diseases and one of the health-threatening factors (Hemati et al., 2015). Cancer in various societies and cultures is one of the scary diseases and thus has many emotional dimensions. At the personal and family level, the disease's novel condition makes many issues for the person and his/her family. Hence, it increases feelings of dependency, reduces selfesteem, increases feelings of vulnerability, and disturbing thoughts (Courtens et al., 1996) of experience disease-related emotions is connected to culture and social relationships. Part of this emotional experience is linked to the social interactions of the patient and those around him. To continue his life, the sufferer is forced to struggle and face social and economic problems multiplied by the incidence of disease and make a novel form of emotional relationships. Considering these emotional experiences, cancer research will be incomplete regardless of emotions it stimulates and how to deal with them.

Present research on the emotions of cancer patients has studied most of the psychological or physiological aspects of this problem; however, several examples have considered social-cultural aspects combined with psychological dimensions in the present research background. One of these researches is to survey and understand the disease process from the beginning of the treatment process to make solutions for the cope and the effect of cultural discourses on the patient's feelings and perspective (Fazeli & Feizi, 2012). Besides focusing on the subjective, interpretive, and constructive, and defined nature of breast cancer, this research discusses its medical aspect and its specific social and cultural dimensions. In research, by investigating the cognitive and emotional performance of spouses of cancer patients, it was attempted to identify the difference



between this group and other two groups, i.e., spouses of patients after treatment and healthy individuals (Alemi et al., 2012), due to the results of a study, the utilization of emotion-focused coping strategies in caregivers and increasing the patient's care needs increased caregiver pressure (Abbasi et al., 2013) a group of researchers surveying the status of mothers with children with cancer found that between the resilience of mothers and anxiety. Also, their depression has a negative and significant relationship (Asghari et al., 2015). Other findings show that emotions are socially beneficial and can help transfer emotions to others and social interaction and have an effective role in resilience and anxiety in women with cancer (Karimiafshar et al., 2018). In a 2012 research, researchers surveyed cancer patients' situations and stigma caused by altering their appearance and interactions with familiar or stranger people (secondary groups) in such situations (Bobanno & Esmaeli, 2012). Liu et al. have surveyed two pathologic mechanisms of emotions in cancer patients: attitudes and rumination and its combined impacts on the emotions of newly diagnosed cancer patients (Liu et al., 2017). A team of researchers in research surveyed the concerns of adults with cancer as children and are considered cancer survivors (Smits-Seemann et al., 2017), as well as a combined study in 2017 examining feelings, fear, and family in black women with breast cancer (Brown et al., 2017). A team of researchers found that the general population impacted a large part of the anxiety of women with cancer, and cases such as social inequalities were effective in exacerbating it (Puigpinos-Riera et al., 2018), and Castillo and colleagues of three focus groups of breast cancer survivors surveyed how patients cope with treatment and emotions during treatment. Due to the results of this research, certain emotions such as fear and nervousness were observed. Furthermore, the role of cultural, family, and spirituality backgrounds is significant (Castilo et al., 2019).



Due to the results of the above research, cancer has various changes and impacts on the patient and the family's life. The response to cancer depends on problems like his illness and psychological structure, family and social environment, disabilities, and deformity and can affect all patient activity levels (Kissane et al., 2003). Attendance in a cold and disease-filled environment is a serious challenge for the person. The patient's situation and physical pain, drug utilization, appearance changes, and multiple attitudes around them also cause these challenges. Emotional developments resulting from novel social relationships and novel forms of life with cancer, various emotional interpretations, and experiences are placed against the patient, which is the topic of this study. In this research, we attempted to understand the emotions of cancer patients by a social constructivist approach.

Methods

This research aimed to understand and interpret the emotions of cancer patients during cancer. Furthermore, we utilized a qualitativeinterpretive approach to understand the meaning of this experience. The constructivist approach (Charmaz, 2014) was utilized to collect semistructured interviews with 17 patients and their family caregivers. Interviews were conducted with patients who were going through the final steps of their treatment in Ahvaz. 10 participants were female, 2 were male, and 5 were family caregivers. Patients were chosen from various ages, from 20 to 65 years of age. The purposive sampling method and the snowball method were utilized to choose participants. Several samples were chosen through previous researchers' previous knowledge and then helped expand the interview process by introducing novel samples. The interviews lasted about 3 months, and we continued the interviews on paper after the recording. Among the questions we asked through the interview are: How did you feel the first time you knew about your illness? How did you deal with your feelings? How do you manage the situation of the disease and the emotions that result from it?

We analyzed the data utilizing the theoretical coding technique. In the open coding stage, the text of interviews was conceptualized row by row. In central coding, these concepts were put together, and due to semantic overlap, became central categories, and finally, the main category was constructed at a more abstract level than the previous two steps.

The validity of findings was considered in several ways. The relatively continuous and long communication of one of the researchers, which had started in the past few years due to similar experience, made it possible for him to become more familiar with cancer patients' condition and make a better and richer relationship with them. It was also feasible to monitor and review the data by the participants in the data collection process. Analysis, review, and comparison of obtained data also helped to increase the confidence level.

Before each interview, the aim and general process of research were explained to the participants. They participated in the interviews due to familiarity with the research process and complete satisfaction. Pseudonyms were utilized in the survey to support privacy and prevent the disclosure of persons' true identity. The results were also explained if they wished, in addition to ensuring that the research process did not have a specific financial burden or spiritual pressure for them. Personal principles and their standards were also taken into the measure.

Results

The analyzed data were organized into 36 primary concepts and 5 main categories. The categories made reflect the patient's emotions in the face of disease. These concepts show the experiences related to the emotional development of people with cancer who participated in this research. "Suspense of emotions" is the final category derived from data and the developments resulting from being in the situation of disease. It is a challenging situation in which the patient and his



relatives attempt to organize it due to their demands and requires by attempting to have an integrated understanding of the situation. Thus, until this is achieved, they are subjected to a suspension which alters their emotions and can be referred to as the suspension of emotions.

Helplessness in notification

After announcing the family about the infection, how to announce the patient is the biggest challenge ahead. Fear of a patient's reaction and concern about monitoring such a condition makes it hard to inform. Moreover, regardless of who is announced of disease and the announcement of cancer news is considered a hard experience. The arrangements utilized by the patient and those close to them are sometimes different; however, in most of them, there is a sign of helplessness in the notification. From postponing the news to quarreling with the medical staff and planning to arrange consultations with the patient, it reveals the hardness of sharing the problem with the affected person. Farzaneh tells about postponing the news, or even attributing her bad physical condition to diseases other than cancer by her relatives, eventually being unexpectedly disclosed by her doctor:

"My husband knew, but he didn't say anything. I told him what it was. He said, "Nothing, you have uterine inflammation, and we have to go to Ahvaz so that you can get treatment. I told my husband, "Why should we go to Ahvaz?" "Nothing" he said. Don't tell me my family has all been informed and I don't know. I wasn't told. My family would come upstairs to look at me, we lived upstairs in my brother-in-law's house, and everyone would go downstairs and sit down, hold meetings and talk when they wanted to go to their homes. I was looking up there, and I saw everyone crying, then with my daughter, when we were looking up there, I was saying, what's wrong with them?"

The girl, whose mother has bowel cancer, said she brought her mother to the hospital under the pretext of infection and decided to inform her gradually. The reason for this is the patient's age and the difficulty of hearing the news for him. His attempts to prevent subsequent reactions, possibly accompanied by patient panic, go so far as that even after accidentally revealing the disease by a doctor, he continued to intend to hide the disease and deny it. She says:

"We didn't tell him at; first, we said there was a problem with severe infection. As if he had an infection problem, and that's why we brought him here because they're old people, and it's a little hard for them. That's why I tried to boost their morale. I would go in front of him and play and joking. I'd say, "Why are you like this?" He said, "Why do sister Nasrin and everyone who comes to our house unhappy and goes with crying eyes, except what the doctor has given negatively, I would say, "Mom, if it was something I wouldn't be like that." One of the doctors came to her the first day and told him, "What's your chemotherapy session?" My mom just stayed shocked. Did he say I got cancer? I said, "No, what's all this?" Did we already have a person with cancer in the family that you're infected with now?"

Patients' experience of the process of understanding and exposing the disease indicates that emotional assumptions are very profitable in this admission. This step creates tensions for patients and families. The notion of cancer entanglement with death, and the social and cultural view of it fuel these tensions.

Expecting continued empathy

From the onset of the disease to the period of treatment and being in the disease position, the patient observes behaviors that do not go through the same process. Conflicting behaviors which can cause confusion. The patient's special condition and his attempts to cope with the situation require constant support, and any faltering behavior of those around him can be uncomfortable for him. The patient usually expects to receive a uniform and supportive behavior and emotions. He becomes sensitive to the emotional reactions of those around him. Especially as the ups and downs

[DOI: 10.18502/sbrh.v4i2.4688



increase, this emotional oscillation shows itself in many forms. Fariborz says:

"For example, my uncle's first chemotherapy series had to come to the hospital every night, even though he's very busy and concerned. Still, now that I'm going chemotherapy, he'd only come home once. I wanted to complain to him, at least come by a little bit more".

Emotional distance is another emotional fluctuation which after a while of illness may reveal itself; Arezoo says:

"In these conditions, you like to be emotionally supportive. Some men who unfortunately don't have feelings; the vacuum feels more about it. For example, my wife's utmost consolation to me was that you wouldn't die until you kill me".

Thus, the patient's emotional experience is not formed in a vacuum; the patient is sensitive to the behavior and emotions of those around him and expects to receive continuous and sustained support, especially from family members and relatives. Any change in this area will stimulate her sensitivity.

Admission Delay

The disease and the beginning of the treatment process make changes in a person's emotional and emotional relationships. The delay of disease, which can be done by two parties involved (the person relative to family or vice versa), is often the result of the fear of death or the uncertain future of the disease. Besides, the treatment environment, due to its special and unpleasant conditions for the patient, is related to unknowing, which increases the difficulty of admission. These features impact the way emotions express. In this sense, the novel environment brings excitement. It is hard to accept the disease in itself; usually, unexpected entry into the therapeutic space may lead to delays in accepting and understanding the situation. The patient finds himself where he needs longer mental processing and time to understand it fully. The relationship between physical and mental situations is indicated, and the difficulties imposed on the body delay the analysis of the situation and the later understanding of the new space.

Shirin says:

"I was very stressed and scared. I wasn't in spirit at all; my family was boosting my mood. My family and my husband... They said there was no particular problem. It's a disease that many people get, and it's a drug that needs to be used; now I'm better than I used to be. My mood in chemotherapy got really bad because of how I looked. Now I'm doing my own thing, the first meetings were very difficult. There was nothing I could do. At first, I was very disappointed, a lot of frustration... But after two or three sessions of chemotherapy, I was in good spirits".

Samira says:

"When I found out, it was late September 2017, others knew. My mom didn't tell me what the problem was. At first, I didn't react because my mom was there. When I did a CT scan and an ultrasound, I realized exactly what my illness was; that is, the second time I went to the bathroom myself, and I bathed alone for the second time, my hair was almost completely shed. That's when I sat down and cried for myself and evacuated myself".

In this way, the affected person needs a method of digestion that is relatively achieved over time until a certain understanding of the disease and its belief and acceptance.

Desire for emotional retrieval

One of the issues of patients exposed to cancer is the impossibility of complete discharge of emotions during the treatment period. It may be handled for various reasons, sometimes observing the conditions of those around them, and sometimes the patient's confusion and lack of opportunity for the occurrence of emotions mentioned in the previous category (the end of admission). In this way, due to the obstacles which the disease creates for the individual, it tends to return to the previous character; it moves at the boundary between constant unhappy and different emotions created during disease. It is as if he does



not get enough time to drain and cause his emotions, or it is not easy to get rid of the feelings that have been overcome by illness. Faranak tells about the disease's grief and compares it to the different happiness and spirit before her illness. She speaks of her efforts to restore his earlier feeling and how this effort was made.

"There's always sadness in me, which means that in the joy that I'm sitting in, there's latent anger inside me that I feel I haven't been able to empty myself yet. For instance, I was energetic everywhere I went, in our high school, university, or home. I had so much energy at home that my mom says that our house was blown up after you got married. Because of this, I'm still not happy with myself. I'd like to try harder. I like to throw memories of this disease out of my mind".

Turan speaks about her spirits, and the disease was an obstacle to her constant emotions, and she expects the end of the disease to continue her activities in the same quality as before:

"I would have liked this crisis to pass and end soon. I'm very active, I liked to heal early, I don't stay in one place much, and that's why it was hard, and it's good that it's over. I'd like to go out. I'm not a housewife. My sister sometimes says, how far you're going, I tell you what you're doing to me, let me go out, and my mood will heal. I'm a variety of people myself... I'm playful; I'm going, I'm coming, I'm looking... I have many friends. I'm not housed or isolated... It was good to be finished".

Furthermore, the patient expects the end of the crisis and returning to the past to regulate and guide his emotions as he wishes, as he wishes, not as the disease and the new body specify for him.

Social dilatability

Understanding the disease, whether from the affected person or others, is linked with some kind of delay. It may lead to increased emotional gaps and communication problems among people involved in the disease. Reviewing the memories of disease and unawareness of others is an example of this. Most of them are reluctant to remember what has happened to them during the disease and the course of treatment, and the excitement they experience in the afterglow of this dissatisfaction in the form of complaints and unhappy or some kind of confusion.

An example of persistent questions and disregard for patient's conversations in the experience of one of them:

"The attitude of those around them hurts; they don't know how to deal with the disease. Many people don't know, they don't know what the disease is, they may not know a lot of things, and they'll be treated differently so that you get annoyed. It's hard to tell in detail what happened... It's interesting that they forget everything a lot of times. They ask the first question about their sentence, and then they end up asking again. For example, at first, they asked when you would be discharged, and then finally, they asked again":

Azadeh says:

"It hurts me a lot because relatives call and cry. It's very difficult for me. We announce them as much as possible and say don't do these things because it's bad for their morale. Treat her normally. We always try to be happy in front of her. I was very opposed to someone who gives her negative energy. There is no reason for our neighbor to come and sit down and explain to her again and to share bad memories for her. I had a lot of problems with it".

The lack of proper understanding of the patient's illness and situation, which occurs due to this late understanding, can be recognized as long social time, i.e., a late understanding of patient's condition by those around him and making the situation more difficult for the person or his relatives.

Discussion

Decisions and actions of persons affected by their cultural and social backgrounds are beneficial in shaping emotions and dealing with them. Such impacts have always been considered in the theories of emotion scholars who consider emotions from a sociological perspective. Due to its unfamiliarity, the created situation makes a



strange state that is hard for the patient. Due to this reason, the process during the disease is such that it becomes hard to achieve stabilization. Achieving relative adaptation requires time and usually happens with delays. This can be considered a suspension of emotions that are influenced by the situations of disease and the social context in which people are placed. This novel management is linked to Hoch child's theories regarding the feeling suitable for special environments and activities (Turner, 2016) the condition of disease and activities linked to the person's role as the patient needs; she manages and presents a feeling tailored to the situation. These results are in line with the findings of (Fazeli & Feizi, 2012) and the effect of cultural discourses and the patient's view on making strategies to cope with the disease. The findings of this research reveal that the emotions of those close to them fluctuate. The patient's excruciating treatment and apparent developments, which have a significant effect on his emotions, are linked to Goffman's discussions of the stigma (Ritzer, 1983), because at this stage and the circumstances, concerns about the hot possibility of stigma increase, this concern is related to the gap between what a person should be (potential social identity) and what it is (actual). It can be said that it has also influenced the formation of a category such as the expectation of continued empathy. Research (Bobanno & Esmaeli, 2012) is linked to the impact of apparent changes in interaction with acquaintances and strangers, and therefore it is related to patients' concerns and strategies such as social evocation. This social variability is consistent with the findings (Karimiafshar et al., 2018) regarding the importance of emotions to convey emotions and create constructive interaction. Social variability can be considered in the same direction as the results (Castilo et al., 2019) to influence the cultural-social contexts and the role of different backgrounds on the occurrence of emotions. In phenomenological theories, the body is considered as the context of experience. Every change in one's body and body affects his social, economic, and

cultural life in the experience of the participants of this study, the changes in the mind and body are not separate, but both have been influenced by each other. Also, cancer survivors' concerns about future life and aspects of the experience of the disease can be associated with this doublesided effect and entanglement of mind and body, which is seen in studies (Smits-Seemann et al., 2017) and therefore closely related to the present study, this study is the relationship between past developments of the body, the lived experience of individuals and its consequences in the future of survivors, which shows one of the most significant aspects of this fusion and effect.

Conclusion

This research refers to how the patient forms their emotions and relationships in novel conditions. Due to rapid alters in the body, the mind and relationships of the personal requirement to change. Considering the James-Lange theory (Turner, 2016), emotions perceived are the perception of physical transformations. In patients, this body change, which significantly contains the patient, is presented in the form of instantaneous or long-term emotions. Emotions that do not take a fixed form, while there is a debate here about the quality of perception in the situation, i.e., due to lack of understanding and digestion of conditions, the emotion associated with it does not take full form and sustainability. This instability also exists within cancer, which makes it harder to express excitement. Entering cancer, such as being in an unexpected situation, confuses a person in finding the right feeling. Although the news about cancer is not low, its touch and understanding are different. So, we can't cry or tremble and get angry as we do at other times when we quickly reveal our emotions. From a time perspective, the emotional expression takes a different form. Even though the reactions may be the combination of all of these or part of it and at the same time none, that is, what is referred to here as exposure is different from the previous confrontations; hence emotions are moving in a relatively suspended state between the Afrasiabi H, et al.



known and the unknown. In this way, due to the research findings, it is better for people to have adequate training in their relationships with cancer patients, and paying attention to this emotional process is significant in informing those around them. Education is particularly beneficial for those around them and can be done by medical staff, helpers, and even cancer survivors, people who have experienced disease and treatment because each person with suitable education can establish healthier and less stressful relationships with the patient. In this route, cancer-induced emotions and relationships created through these emotions are less strange, and this decrease in unknowing gives a new form to the type of exposure and social emotions. On the other hand, the type of emotions at the beginning, middle, and end of treatment are often different, so each stage requires its interactive needs and communication arrangements. It is better to consider this point in the training.

Conflict of interest

No conflict of interest has been reported by the authors in this study.

Acknowledgments

We would like to express our thanks to patients that participated and shared their experience with us.

Authors' Contribution

Conceptualization, H.A.; Methodology, K.B.; Investigation, H.A.; Formal analysis, K.B.; Interviews, K.B.; Writing – Original Draft, H.A.; Writing – Review & Editing, H.A.

All authors read and approved the final manuscript and are responsible about any question related to article.

References

Abbasi, A., Shamsizadeh, M., Asayesh, H., Rahmani, H., Hosseini, S. A., Talebi, M. (2013). The relationship between caregiver burdens with coping strategies in Family caregivers of cancer patients. Iranian Nursing Scientific Association,

581

1(3), 62-71. http://ijpn.ir/article-1-170-en.html [Persian]

- Akbari, M., Nafisi, N., Jamshidifar, Z. (2013). Effectiveness of mindfulness training in decreasing the perceived stress among the patients suffering from breast cancer. Journal of Thought & Behavior in Clinical Psychology, 7(27), 7-16. [Persian]
- Alemi, S., Moradi, A., Jonabian, A. (2012). The Psychological (Emotional and Cognitive) Performance of Spouse's Cancer During and after Treatment. Journal of Research in Psychological Health, 6(1), 36-44. [Persian]
- Asghari-Nekah, M., Jansouz, F., Kamali, F., Taherinia, S. (2015). The Resiliency Status and Emotional Distress in Mothers of Children with Cancer. Journal of Clinical Psychology, 7(25), 15-26. [Persian]
- Brown, T., Dyck, I., Greenhough, B., Raven-Ellison, M., Dembinsky, M., Ornstein, M., Duffy, S. W. (2017). Fear, family and the placing of emotion: Black women's responses to a breast cancer awareness intervention. Social Science & Medicine, 195, 90-96.

https://doi.org/10.1016/j.socscimed.2017.10.037

Bobanno, A., Esmaeli, B. (2012). Facial Disfigurement, Stigma, and Members of Secondary Groups. Sociological Spectrum, 32(2), 138-156.

https://doi.org/10.1080/02732173.2012.646156

- Castilo, A., Mendiola, J., Tiemensma, J. (2019). Emotions and Coping Strategies during Breast Cancer in Latin Women: A Focus Group Study. Hispanic Health Care International, 17(3), 96-102.
- Charmaz, K. (2014). Constructing grounded theory: A practical guide through qualitative Analysis. London: Sage.
- Courtens A.M., Stevens F.C., Crebolder H.F., Philipsen H. (1996). Longitudinal study on quality of life and social support in cancer patients. Cancer Nursing, 19, 162–169.
- Fazeli, N., Feizi, A. (2012). Social Construction of Breast Cancer Case Study: Women with Breast Cancer in Tabriz. Quarterly Journal of Women's



Studies Sociological and Psychological, 10(2), 51-84. [Persian]

- Hemati, K., Zamani, B., Hassani, V., Imani, F., Dariaie, P. (2015). Efficay of Fantayl Transdermal Patch in the treatment of chronic Soft tissue Cancer Pain. Anesthesiology and Pain Medicine, 5(1), e22900. [Persian]
- Karimiafshar, E., Shabanian, G., SaidTaleshi, L., Manzari Tavakolii, V. (2018). Health Psychology, 7(1), 95-105. [Persian]
- Kissane, D. W., Bloch, S., Smith, G. C., Miach, P., Clarke, D. M., Ikin, J., Love, A., Ranieri, N., McKenzie, D. (2003). Cognitive-existential group psychotherapy for women with primary breast cancer: a randomized controlled trial. Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer, 12(6), 532-546.
- Liu, J., Peh, C. X., Mahendran, R. (2017). Body image and emotional distress in newly diagnosed cancer patients: The mediating role of

dysfunctional attitudes and rumination. Body image, 20, 58-64.

- Puigpinos-Riera, R., Graells-Sans, A., Seral, G., Continent, X., Bargallo, X., Domenech, M., Espinosa-Bravo, M., Grau, J., Macia, F., Manzanera, R., Pla, M. (2018). Anexity and Depression I Wome with breast Cancer: Social and Clinical determinants and Influence of the Social network and Social Support (DAMA Cohort). Cancer Epidemiology, 55, 123-129.
- Ritzer, G. (1983). Contemporary sociological theory. (M. Salasi, Trans.). Tehran. Iran: Ramin.
- Smits-Seemann, R. R., Yi, J., Tian, T., Warner, E. L., Kirchhoff, A. C. (2017). A qualitative inquiry of childhood and adolescent cancer survivors' perspectives of independence. Journal of adolescent and young adult oncology, 6(1), 91-95.
- Turner, J. (2016). Handbook of Sociology of Emotions. (A. Ramezani & N. Sharifiansani, Trans). Mashhad. Iran: Moalef.